

AD-A039 281

FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OHIO
RADIO AND TELECOMMUNICATION ENGINEERING AT THE LEIPZIG SPRING F--ETC(U)

F/G 17/2

NOV 76 O MITTANK

UNCLASSIFIED

FTD-ID(RS)I-1513-76

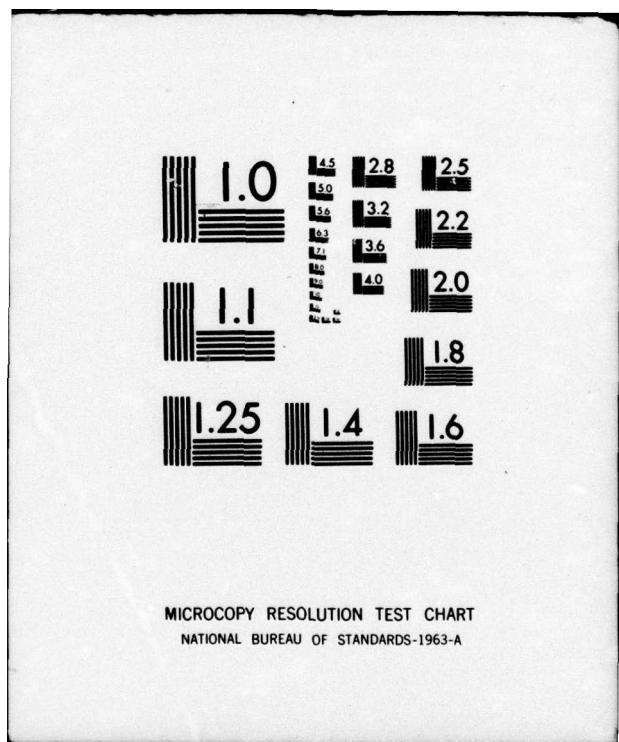
NL

| OF |
AD
A039281



END

DATE
FILMED
5-77



AD-A0392281

FTD-ID(RS)I-1513-76

0
NW

FOREIGN TECHNOLOGY DIVISION



RADIO AND TELECOMMUNICATION ENGINEERING AT THE
LEIPZIG SPRING FAIR 1976

by

Oec Mittank



Approved for public release;
distribution unlimited.

FTD ID(RS)I-1513-76

EDITED TRANSLATION

FTD-ID(RS)I-1513-76

10 November 1976

FTD-76-C-001128

RADIO AND TELECOMMUNICATION ENGINEERING AT THE
LEIPZIG SPRING FAIR 1976

By: Oec Mittank

English pages: 8

Source: Militartechnik, Nr 3, 1976, PP. 134-135.

Country of origin: East Germany

Translated by: Gale M. Weisenbarger

Requester: RCA

Approved for public release; distribution unlimited.

THIS TRANSLATION IS A RENDITION OF THE ORIGINAL FOREIGN TEXT WITHOUT ANY ANALYTICAL OR EDITORIAL COMMENT. STATEMENTS OR THEORIES ADVOCATED OR IMPLIED ARE THOSE OF THE SOURCE AND DO NOT NECESSARILY REFLECT THE POSITION OR OPINION OF THE FOREIGN TECHNOLOGY DIVISION.

PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

FTD ID(RS)I-1513-76

Date 10 Nov 19 76

1513, gw

**RADIO AND TELECOMMUNICATION ENGINEERING AT THE LEIPZIG SPRING FAIR
1976**

Oec. Mittank

The industry branch, radio and telecommunication engineering and testing technique will offer technically and economically interesting solutions at the Leipzig Spring Fair 1976 for meeting the constantly growing communications requirements. They represent results obtained by workers, engineers and scientists of radio and telecommunication engineering in the five-year plan 1971-1975 in the realization of the tasks of the 8th Congress of the SED and with which both the quantitative need for communication channels and the increasing qualitative demands of a multitude of users of communications devices and installations can be satisfied.

The high scientific and technical level of the exhibitions was achieved through the scientific cooperation between the development offices of the combines and enterprises of the industry branch and the Institute for Communications Engineering, through research cooperation with scientific-technical research centers and educational institutions of the GDR and finally, through cooperation with the COMECON member countries in research, production and application.

In accordance with the increasing significance of communications in all economic and social areas and in agreement with the tasks facing the postal and telecommunication administrations the exhibition of the industry branch of radio and telecommunication engineering and measuring technique is oriented toward equipment and installations for the construction and improvement of operational networks and special networks for the expansion and modernization of local and national communications networks as well as for the improvement of international and intercontinental communication connections.

Quality-determining characteristics of the products offered are high transmission qualities and reliability, economy in operation, adaptability to various operating conditions and to previously existing installations as well as low installation and maintenance

costs.

1. NEW LOW-CHANNEL CARRIER FREQUENCY EQUIPMENT

In the area of transmission technology the RFT-assortment [Tr. note: RFT - radio and telecommunication engineering] offers equally economically favorable possibilities for meeting the increasing demand for telephone channels in the lower network level as well as for constructing long-distance connections with a high number of channels or for expanding existing repeating offices with terminal equipment of high rack capacity. New designs of low-channel carrier-frequency equipment are the systems VZ 12 for cable operation and the standardized carrier-frequency system STP 12 + 12.

The VZ 12 (Fig. 1) which belongs to a new family of stationary TF-systems [Tr. note: TF - carrier frequency] makes possible the transmission of 12-channel groups through symmetrical cable. Because of the small specific volume of each system up to eight VZ 12 terminal stations or 12 VZ 12 way stations can be accommodated in a rack 2.6 meters high. High reliability and operating qualities of the system are guaranteed by the use of silicon semiconductor components, integrated circuits and mechanical filters for frequency selection. The chosen design principle, unit construction with interchangeable magazines and cable harnesses, permits a great flexibility in

component make-up, simple installation in the exchange and good accessibility to all components and connecting elements.

The devices of the TF-family STF 12 + 12 (Fig. 2) can be used everywhere where 24 channels per system are sufficient for telephone, teletype and remote control using ground cables, aerial cable or radio. This TF-system is designed so that with few tier types, which in addition have a variable component make-up, devices can be assembled in a structural unit for various types of transmission with various channel numbers for the most varied ambient conditions. Here the spectrum reaches from the mechanically highly loaded mobile portable model through semi-stationary devices to stack construction through which racks up to 2.6 m high can be realized.

2. ALTERNATING CURRENT TELEGRAPHY SMALL RACK VWT 6

The assortment of alternating current telegraphy equipment for stationary application has been expanded by the recent development of the small rack VWT 6 (Fig. 3). Now in addition to the well-known rack models VWT 72 with a height of 2.6 m and a capacity of 72 channels and the 1.4-m high VWT K with a capacity of 30 channels, there is now a 0.4-m high model which will accept 6 channels. The VWT 6 has good realization possibilities for teleprinting, remote control and data networks of power supply enterprises, for railroad administrations

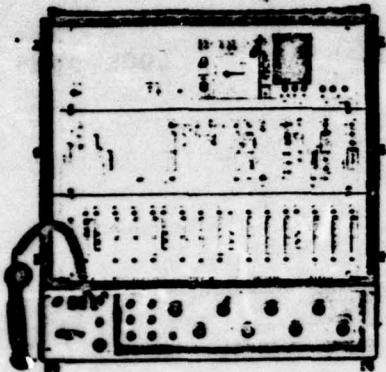


Fig. 2. Standardized carrier-frequency system STF 12+12.

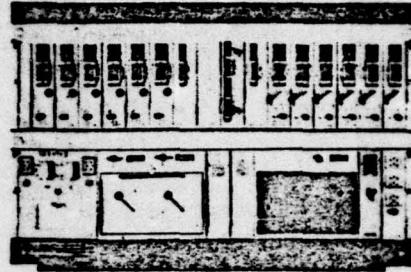


Fig. 3. Alternating current telegraphy small rack VWT 6.



Fig. 4. VHF-receiver UET 720.

and special services (flight safety, meteorological service, police, etc.) where only a small number of channels are necessary.

3. COMMUNICATION EQUIPMENT FOR CONSTRUCTION OF NETWORKS WITH MOBILE SUBSCRIBERS

In the area of VHF radio technology RFT presents for the first time a new product of the VHF-radio series "System U 700," the portable receiver UET 720 (Fig. 4). This receiver operates in the 2-m band in one channel in combination with a transmitting station or a transceiver station of the same frequency band. Because of a built-in selective calling evaluation it is especially suited for use in alarm networks of the land mobile-radio service. Robust housing, easy operation and serviceability are further characteristics of this device which is constructed with the most modern electronic components.

Power for the UET 720 is supplied by a Ni-Cd rechargeable battery. Due to a current saving circuit the device can be operated on the battery for a minimum of 24 hours without interruption. During stationary operation power is supplied by the mains device UNW 71 A1. This device is supplementarily equipped with an optical call signal.

New developments in the area of commercial radio are the

communications receiver EKD for long-distance telephone and telegraph communication with decadic frequency setting in 10-Hz steps whose development and design were determined by the use values of the mobile radio service as well as those of the single-sideband receiver EGD 01 which meets the operational requirements of commercial radio service in stationary and mobile use. We will report on both devices in more detail in our next issue.

Finally let us mention the further-developed and newly designed long-distance observer installation PBA 2010 as well as the facsimile recorder FB 1010 which will be presented for the first time. The facsimile recorder was designed specially for use in picture transmission. It is equipped with a sound section which makes possible reproduction of the sound information parallel to the photo information.

DCC = 76141336

PAGE 8

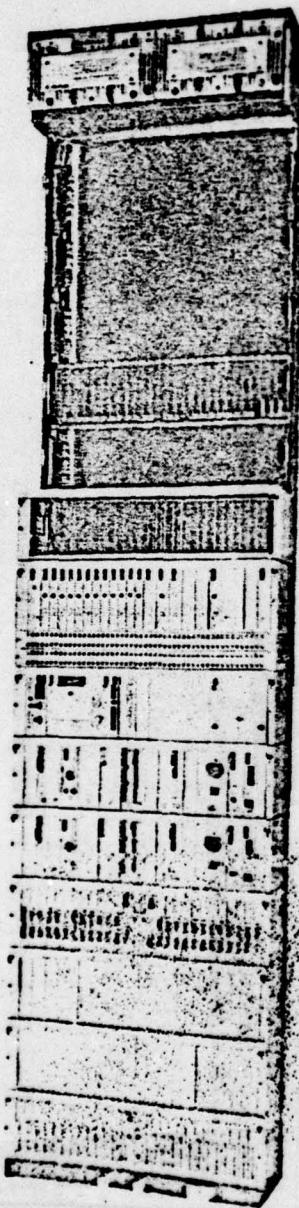


Fig. 1. Carrier-frequency system VZ 12 for cable operation.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|--|-----------------------|---|
| 1. REPORT NUMBER FTD-ID(RS)I-1513-76 ✓ | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle) RADIO AND TELECOMMUNICATION ENGINEERING AT THE LEIPZIG SPRING FAIR 1976 | | 5. TYPE OF REPORT & PERIOD COVERED Translation |
| 7. AUTHOR(s) Oec Mittank | | 6. PERFORMING ORG. REPORT NUMBER |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS Foreign Technology Division Air Force Systems Command U. S. Air Force | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 11. CONTROLLING OFFICE NAME AND ADDRESS | | 12. REPORT DATE 1976 |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) | | 13. NUMBER OF PAGES 8 |
| 16. DISTRIBUTION STATEMENT (of this Report) | | 15. SECURITY CLASS. (of this report) UNCLASSIFIED |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) | | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |
| 18. SUPPLEMENTARY NOTES | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) | | |

DISTRIBUTION LIST

DISTRIBUTION DIRECT TO RECIPIENT

| ORGANIZATION | MICROFICHE | ORGANIZATION | MICROFICHE |
|----------------------------------|------------|-----------------|------------|
| A205 DMATC | 1 | E053 AF/INAKA | 1 |
| A210 DMAAC | 2 | E017 AF/RDQLR-W | 1 |
| B344 DIA/DS-4C | 8 | E404 AEDC | 1 |
| C043 USAMIIA | 1 | E408 AFWL | 1 |
| C509 BALLISTIC RES LABS | 1 | E410 ADTC | 1 |
| C510 AIR MOBILITY R&D LAB/FIO | 1 | E413 ESD FTD | 2 |
| C513 PICATINNY ARSENAL | 1 | CCN | 1 |
| C535 AVIATION SYS COMD | 1 | ETID | 3 |
| C557 USAIIC | 1 | NIA/PHS | 1 |
| C591 FSTC | 5 | NICD | 5 |
| C619 MIA REDSTONE | 1 | | |
| D008 NISC | 1 | | |
| H300 USAICE (USAREUR) | 1 | | |
| P005 ERDA | 2 | | |
| P055 CIA/CRS/ADD/SD | 1 | | |
| NAVORDSTA (50L) | 1 | | |
| NAVWPNSCEN (Code 121) | 1 | | |
| NASA/KSI | 1 | | |
| 544 IES/RDPO | 1 | | |
| AFIT/LD | 1 | | |